

Farming for Info: Agricultural Land Use Inventory & Agricultural Water Demand Model

A healthy agriculture sector provides economic development opportunities, fresh food to residents, and enhances local food security. While new farmers are attempting to establish themselves, there is strong evidence that barriers to accessing land for farming are increasing. Non-farm uses and residential estate uses on farmland are factors which contribute to rising costs of leasing or purchasing farmland. In addition, the availability of water is a critical element to the success of agriculture.

An Agricultural Land Use Inventory (ALUI) provides current data to inform local governments, industry, community groups/organizations, and other stakeholders when addressing existing and developing issues on farmland. ALUI's map the amount and type of farming in the region, describe how designated farmland (ALR) is being used including the level of non-farm uses, and provide a benchmark for monitoring land use change.

ALUI data is a key input into an Agricultural Water Demand Model that estimates agriculture water demand for future climate scenarios. Climate change and a growing population are challenging water supply and delivery infrastructure. Securing appropriate water allocation for current and future agricultural needs is necessary for long-term sustainability of the farming community.

Together, an ALUI and AWDM can help answer the following questions:

- What is the current extent, type, location, and scale of agricultural activities in the area?
- What is the current extent, type, location of value added activities (agritourism, events, processing, farm gate sales) occurring on farmed properties?
- How are current farmed properties being utilized; land proportion in cropped land, farm infrastructure, residences, natural / nonproductive land?
- How is parcel size, parcel location influencing utilization for agriculture?
- What is the current extent and type of non-farm use occurring on farmland?
- What is the current water demand for agriculture, both crops and livestock?
- What is the current extent and type of irrigation methods in use?
- What is the water demand for agriculture in future climate scenarios?
- What is the water demand for agriculture in future cropping and livestock scenarios (ex. full land base utilization)?

Project timing / methodology:

Over the winter and spring, office technicians use high resolution ortho-photo imagery to map field crops, irrigation, livestock facilities, farm practices, and other land uses on agricultural land across the region.

Then, during the summer (growing season), agrologists will navigate public roads and observe the land from within the vehicle to confirm information gathered in the office from the imagery (i.e. windshield survey).

Farmers are not actively contacted, but the survey crew often engages with farmers that walk up to the survey vehicle.

Deliverables include:

A geographic database of Land use and Land cover, including non agricultural uses where they occur on designated farmland (ALR) such as residential, commercial, transportation for all parcels in the ALR or outside the ALR but with Farm Class designation (BC Assessment).

On parcels where farming activities exist, additional data describing activities, including

- Crop type and practice
- Irrigation type
- Livestock type and intensity (including apiculture, aquaculture)
- Value added activities such as on farm fruit stands, crop processing, tourism activities like guest houses or wine tasting.
- Crop protection such wind machines (frost protection) or propane cannons

A written ALUI report using the standard template as defined by the Ministry of Agriculture or a web application displaying ALUI data summaries and mapping .

A populated Agricultural Water Demand Model (AWDM) for at least 5 different water demand scenarios including:

- by crops, irrigation systems and soil texture with current land use and climate;
- if more efficient irrigation systems replace the existing systems under current land use and climate;
- if irrigated acreage is increased; and
- the above with several different future climate change scenarios.



Partial funding is available through Investment Agriculture’s Agricultural Area Planning Program and/or the Partnership for Water Sustainability in BC. The BC Ministry of Agriculture often coordinates and manages ALUI and AWDM projects in partnership with the local government.

For more information:

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